

# Collection of Magnetics Data to Aid in the Understanding of the Effects of Changes in Mantle Temperature on Melt Supply and Crustal Accretion

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(MI\_Metadata)

**fileIdentifier:** EW0114\_Magnetic

**language:** eng; USA

**characterSet:** (MD\_CharacterSetCode) utf8

**hierarchyLevel:** (MD\_ScopeCode) series

**hierarchyLevelName:** Unprocessed Magnetic Data Metadata

**contact:** *xlink:* <https://www.ngdc.noaa.gov/docucomp/component/7df204c0-eb7c-47de-af08-9d2afb5c15a0> *title:* Brian Meyer

**dateStamp:** 2012-12-07

**metadataStandardName:** ISO 19115-2 Geographic Information - Metadata - Part 2: Extensions for Imagery and Gridded Data

**metadataStandardVersion:** ISO 19115-2:2009(E)

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**spatialRepresentationInfo:** (MD\_VectorSpatialRepresentation)

**geometricObjects:** (MD\_GeometricObjects)

**geometricObjectType:** (MD\_GeometricObjectTypeCode) point

**geometricObjectCount:** 25795

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**identificationInfo:** (MD\_DataIdentification)

**citation:** (CI\_Citation)

**title:** Collection of Magnetics Data to Aid in the Understanding of the Effects of Changes in Mantle Temperature on Melt Supply and Crustal Accretion

**date:** (CI\_Date)

**date:** 2001-12-07

**dateType:** (CI\_DateTypeCode) creation

**abstract:** This data set describes multiple geophysical parameters that were surveyed off the southern coast of Australia in late 2001 to early 2002. Parameters surveyed include magnetics, gravity, seismic, and multibeam.

**purpose:** The primary goal of the research program undertaken on R/V Maurice Ewing cruise EW0114 was to determine the dependence of melt supply on variations in mantle temperature at constant spreading rate and to investigate the effects of these variations on crustal accretion and the resulting crustal structure and morphology.

**status:** (MD\_ProgressCode) completed

**pointOfContact:** (CI\_ResponsibleParty)  
**individualName:** James Cochran  
**contactInfo:** (CI\_Contact)  
**address:** (CI\_Address)  
**electronicMailAddress:** jrc@ldeo.columbia.edu  
**role:** (CI\_RoleCode) principalInvestigator  
**resourceMaintenance:** (MD\_MaintenanceInformation)  
**maintenanceAndUpdateFrequency:** (MD\_MaintenanceFrequencyCode) asNeeded  
**descriptiveKeywords:** (MD\_Keywords)  
**keyword:** OCEANS > MARINE GEOPHYSICS > MAGNETIC ANOMALIES  
**keyword:** OCEANS > MARINE GEOPHYSICS > MARINE MAGNETICS  
**keyword:** SOLID EARTH > GEOMAGNETISM > MAGNETIC ANOMALIES  
**keyword:** SOLID EARTH > GEOMAGNETISM > MAGNETIC FIELD  
**keyword:** SOLID EARTH > GEOMAGNETISM > MAGNETIC INTENSITY  
**type:** (MD\_KeywordTypeCode) theme  
**thesaurusName:** xlink: <https://ngdc.noaa.gov/docucomp/227737d0-428b-11df-9879-0800200c9a66> title: GCMD Science Keywords  
**descriptiveKeywords:** (MD\_Keywords)  
**keyword:** DOC/NOAA/NESDIS/NGDC > National Geophysical Data Center, NESDIS, NOAA, U.S. Department of Commerce  
**type:** (MD\_KeywordTypeCode) dataCenter  
**thesaurusName:** xlink: <https://ngdc.noaa.gov/docucomp/9f0de6e6-428b-11df-9879-0800200c9a66> title: GCMD Data Center Keywords  
**descriptiveKeywords:** (MD\_Keywords)  
**keyword:** Ocean > Southern Ocean  
**type:** (MD\_KeywordTypeCode) place  
**thesaurusName:** xlink: <https://ngdc.noaa.gov/docucomp/82A5DD19565ACBECE040AC8C5AB41A40> title: GCMD Location Keywords  
**resourceConstraints:** xlink: <https://ngdc.noaa.gov/docucomp/dadd4ac3-2b9f-4db5-8603-71285b94c3d7> title: NOAA Disclaimer  
**resourceConstraints:** xlink: <https://ngdc.noaa.gov/docucomp/103da706-402a-41cf-adc9-e709dd0ebea5> title: Not to be used for navigation  
**resourceConstraints:** xlink: <https://ngdc.noaa.gov/docucomp/295cb881-4997-4a93-b31a-10855ef59b83> title: NGDC Copyright  
**language:** eng; USA  
**topicCategory:** (MD\_TopicCategoryCode) geoscientificInformation  
**topicCategory:** (MD\_TopicCategoryCode) elevation  
**topicCategory:** (MD\_TopicCategoryCode) oceans  
**topicCategory:** (MD\_TopicCategoryCode) climatologyMeteorologyAtmosphere  
**extent:** (EX\_Extent) boundingExtent  
**geographicElement:** (EX\_GeographicBoundingBox) boundingGeographicBoundingBox  
**westBoundLongitude:** 99.956  
**eastBoundLongitude:** 147.493  
**southBoundLatitude:** -50.172  
**northBoundLatitude:** -31.942  
**geographicElement:** (EX\_BoundingPolygon)  
**polygon:**  
**LineString:** dataCollectionXY  
**posList:** 109.88378 -38.01339 109.19239 -38.73288 108.49719 -39.44936 107.79899 -40.16148 107.09701 -40.86989 106.39058 -41.57527 105.68140 -42.27591 104.96760 -42.97314 104.67412 -43.25752 104.67160 -43.25999 103.95263 -43.95098 103.22787 -44.63990 102.50000 -45.32396 102.40141 -45.45009 101.67429 -46.13267 100.93996 -46.80672 100.48902 -47.21624  
**temporalElement:** (EX\_TemporalExtent) boundingTemporalExtent  
**extent:**  
**TimePeriod:** datasetTimePeriod  
**beginPosition:** 2001-12-07

**endPosition:** 2002-01-24

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**contentInfo:** (MI\_CoverageDescription)

**attributeDescription:**

**RecordType:** Point

**contentType:** (MD\_CoverageContentTypeCode) physicalMeasurement

**dimension:** (MD\_Band)

**descriptor:** Total Field

**maxValue:**

**Real:** 65798

**minValue:**

**Real:** 60212

**units:**

**BaseUnit:** *unitID*

**identifier:** nanoTesla

**unitsSystem:** *missing*

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**contentInfo:** (MI\_CoverageDescription)

**attributeDescription:**

**RecordType:** Point

**contentType:** (MD\_CoverageContentTypeCode) auxilliaryData

**dimension:** (MD\_Band)

**descriptor:** Residual Field

**maxValue:**

**Real:** 751

**minValue:**

**Real:** -1103

**units:**

**BaseUnit:** *nanoTesla*

**identifier:** nanoTesla

**unitsSystem:** *missing*

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**distributionInfo:** (MD\_Distribution)

**distributionFormat:** (MD\_Format)

**name:** M77T

**version:** 1

**specification:** The digital format presented, and referred to as "MGD77" or "MGD77T", is an exchange format for marine geophysical data (bathymetry, magnetics, gravity and seismic navigation). The format is intended to be used for the transmission of data to and from a data center and may be useful for the exchange of data between marine institutions, and to be used by various software programs as an import or export format. Data is to be exchanged as files, generally a header (documentation) file and a data file for each survey operation.

**distributor:** (MD\_Distributor)

**distributorContact:** *xlink:* <https://www.ngdc.noaa.gov/docucomp/component/A085BFDF-C10F-818D-3EA8-08330125842F> *title:* User Services

**transferOptions:** (MD\_DigitalTransferOptions)

**onLine:** (CI\_OnlineResource)

**linkage:** <http://maps.ngdc.noaa.gov/viewers/geophysics/>

**name:** Marine Geophysical Data

**description:** Map interface that can be used to access the geophysical data holdings at NGDC. To obtain specific survey, the survey id can be entered into the search dialogue and downloaded directly.

**function:** (CI\_OnLineFunctionCode) search

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**dataQualityInfo:** (DQ\_DataQuality)

**scope:** (DQ\_Scope)

**level:** (MD\_ScopeCode) series

**report:** (DQ\_QuantitativeAttributeAccuracy)

**result:** (DQ\_ConformanceResult)

**specification:** (CI\_Citation)

**title:** Quality Report for Dataset

**date:** (CI\_Date)

**date:** 2002-01-25

**dateType:** (CI\_DateTypeCode) creation

**citedResponsibleParty:** (CI\_ResponsibleParty)

**organisationName:** Lamont Doherty Earth Observatory

**contactInfo:** (CI\_Contact)

**onlineResource:** (CI\_OnlineResource)

**linkage:** <http://www.marine-geo.org/tools/search/entry.php?id=EW0114>

**name:** R/V Maurice Ewing Data Reduction Summary

**description:** The quality report can be found along with the cruise report and

the seismic offsets under the Related Documents tab on the Lamont Doherty webpage for this cruise. The report contains information about data reduction and a summary of possible errors that occurred during data collection.

**function:** (CI\_OnLineFunctionCode) information

**role:** (CI\_RoleCode) publisher

**explanation:** G

**pass:** true

**report:** (DQ\_CompletenessOmission)

**evaluationMethodDescription:** Logging Events that disrupted data collection

**result:** (DQ\_ConformanceResult)

**specification:** *inapplicable*

**explanation:** There were sporadic problems with magnetic data acquisition as a direct result of the extremely harsh weather conditions. In fact, both a "fish" as well as a cable were damaged and lost during the cruise.

**pass:** true

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**acquisitionInformation:** (MI\_AcquisitionInformation)

**operation:** (MI\_Operation)

**identifier:** (MD\_Identifier)

**code:** EW0114

**status:** (MD\_ProgressCode) completed

**parentOperation:** *inapplicable*

**platform:** (MI\_Platform)

**identifier:** (MD\_Identifier)

**code:** R/V Maurice Ewing

**description:** The R/V Maurice Ewing was a 230-ft. research vessel that was purchased from the petroleum company Petro Canada by the Lamont Doherty Earth Observatory. The vessel was in service for fifteen years and was most well known for the ability to gather high quality multi-channel seismic information.

**instrument:** (MI\_Instrument)

**identifier:** (MD\_Identifier)

**code:** Geometrics G-886

**type:** Magnetometer

**description:** The G-886 is a recording proton precession magnetometer. Magnetics data was measured once per minute.